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AF/1773
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Patent
Attorney's Docket No. 030681-351

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	MAIL STOP: AF
)	
Byung-kyu LEE)	Group Art Unit: 1773
)	
Application No.: 10/032,103)	Examiner: H.C. Rickman
)	
Filed: December 31, 2001)	Confirmation No.: 5887
)	
For: PERPENDICULAR MAGNETIC)	
RECORDING MEDIUM)	

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

- ☒ A Petition for Extension of Time is also enclosed.
- ☐ A Terminal Disclaimer and the ☐ \$55.00 (2814) ☐ \$110.00 (1814) fee due under 37 C.F.R. § 1.20(d) are also enclosed.
- ☐ Also enclosed is/are _____.
- ☐ Small entity status is hereby claimed.
- ☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the ☐ \$385.00 (2801) ☐ \$770.00 (1801) fee due under 37 C.F.R. § 1.17(e).
- ☐ Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.
- ☐ Applicant(s) previously submitted ___, on ___, for which continued examination is requested.
- ☐ Applicant(s) requests suspension of action by the Office until at least ___, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.

☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.

☒ No additional claim fee is required.

☐ An additional claim fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	NO. OF CLAIMS	HIGHEST NO. OF CLAIMS PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	ADD'L FEE
Total Claims		MINUS =		× \$18.00 (1202) =	
Independent Claims		MINUS =		× \$86.00 (1201) =	
If Amendment adds multiple dependent claims, add \$290.00 (1203)					
Total Claim Amendment Fee					
If small entity status is claimed, subtract 50% of Total Claim Amendment Fee					
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					

☐ A check in the amount of \$_____ is enclosed for the fee due.

☐ Charge \$_____ to Deposit Account No. 02-4800.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

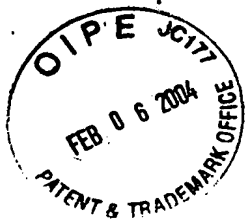
BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: February 6, 2004

By: _____

Charles F. Wieland III
Registration No. 33,096

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620



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REQUEST FOR RECONSIDERATION AFTER FINAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the Advisory Action dated January 12, 2004, Applicant respectfully requests that the Examiner reconsider her position with respect to the Lambeth et al. patent. Specifically, the Office Action suggests column 21, lines 4-17, of the Lambeth et al. patent states that "it can be inferred that Ti is not acting as a seed layer, but essentially as a wetting layer that eliminates the influence of the orientation of the substrate or previously deposited layer under the Co-based layer." This passage, however, deals with an embodiment that is substantially different from the present invention or the embodiment discussed in Applicant's previously filed Amendment, and disclosed in column 21, lines 26-40 of the Lambeth patent. In other words, the embodiment now relied upon in the Office Action is even more distinct from the present invention.

Specifically, column 21, lines 4-17, deals with a CoCrPt/Ti/oxidized-Si substrate or a CoCrPt/Ti/glass substrate. This passage does not meet the recitations of a "perpendicular

magnetic recording medium further comprising a crystal growth discontinuation layer between [a] *perpendicular orientation promoting underlayer* and [a] perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer." In this structure, there is no perpendicular orientation promoting underlayer as the embodiment is disclosed at column 21, lines 4-14.

Further as evidenced at column 21, lines 18-25, the Lambeth et al. patent discusses the fact that the deposition of its Co-based material directly upon a fcc structure would generally result in a Co-based material developing an fcc structure and the orientation of the prior fcc layer, which further indicates just how distinct the wetting layer embodiment is.

Finally, in column 21, lines 26-40, yet another embodiment is discussed wherein an intermediate hcp template is used. Specifically, a Ti layer is deposited on a (111) Ag layer such that the Ti will assume a (0002) orientation which has a similar atomic face lattice to the fcc (111) orientation to thereby "significantly" improve the Co-based layer to *grow epitaxially* in a (0002) orientation to produce a recording medium.

Hence, Applicant respectfully submits that the earlier Amendment cited the more appropriate passage insofar as this third embodiment discussed in column 21, lines 26-40, included something that could be considered analogous to a perpendicular orientation promoting layer in conjunction with a perpendicular magnetic recording layer. In stark contrast to the present invention, however, the intermediate hcp template is designed to *improve* the epitaxial growth of the Co-based layer rather than a wetting layer. It is respectfully submitted, in other words, that Applicant has previously distinguished his

invention from arguably the most analogous embodiment of the Lambeth et al. patent and the other embodiments are not relevant for other, even clearer reasons.

For instance, if one were to look at the embodiment of column 21, lines 4-17, one would note that there are other distinctions between the present invention and the claims, i.e., *inter alia*, the lack of a perpendicular orientation promoting underlayer, as recited in claim 1. Stated differently, it appears that the Office may have mixed features from separate and distinct embodiments disclosed in the Lambeth et al. patent and thought that the various passages were speaking to one embodiment when, in fact, they are describing three very different embodiments.


In light of the foregoing, Applicant respectfully requests reconsideration and allowance of the above-captioned application. Should any residual issues arise, the Examiner is invited to contact the undersigned at the number listed below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: February 6, 2004

By: _____


Charles F. Wieland III
Registration No. 33,096

P.O. Box 1404
Alexandria, Virginia 22313-1404
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